

EXHIBIT 50

1 ANDREW JOHN LEGG

2 UNITED STATES DISTRICT COURT
3 DISTRICT OF MINNESOTA

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5 In re Bair Hugger Forced
6 Air Warming Products
7 Liability Litigation,

8 MDL No. 15-2666 (JNE/FLN)

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11 VIDEOTAPED DEPOSITION OF

12 ANDREW JOHN LEGG

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17 Taken Thursday, December 1st, 2016

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24 Reported By: Victoria Davies

25 Job No: 115949

ANDREW JOHN LEGG

APPEARANCES:
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- and -

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For Plaintiffs

Also present: Mr. Simon Addinsell, videographer

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ANDREW JOHN LEGG

Thursday, December, 1st, 2016

THE VIDEOTAPED DEPOSITION OF ANDREW JOHN LEGG
is taken on this 1st day of December 2016,
at The Hilton Sheffield, Victoria Quay, Sheffield.
S4 7YA. England, commencing at 11.02 a.m.

THE VIDEOGRAPHER: This is the beginning
of DVD 1 in volume 1 of the deposition of Andrew
Legg in the matter of -- two matters here. This
order to obtain evidence in the United States
District Court District of Minnesota. So in the
High Court of Justice Queen's Bench Division before
Senior Master Fontaine, Master in Chambers, in part
of the evidence of the Proceedings in Other
Jurisdictions Act 1975; and in the matter of the
Hague Convention of the 18th March 1970 on the
taking of evidence abroad in civil and commercial
matters and in the matter of a civil proceeding now
pending before the United States District Court for
the District of Minnesota entitled as follows: In
Re Bair Hugger Forced Air Warming Products Liability
Litigation, Plaintiffs, verses 3M Company and
Arizant Healthcare Incorporated. The claim number
in the High Court of Justice is CR2016-420. And in
the District of Minnesota, it is MDL number 15-2666

ANDREW JOHN LEGG

(JNE/FLN).

Today's date is 1st December 2016 and
the time is 11.02 a.m. I have just seen that the
recording equipment says "1st November", so I will
have to adjust that in a second.

The deposition is taking place at the
Hilton Sheffield. The Court Reporter is Victoria
Davies; videographer Simon Addinsell, both with TSG
Reporting.

Could counsel in the room please
introduce themselves and state who they are
representing today, please. Starting with you, sir.

MR. GORDON: I am Corey Gordon. I
represent the Defendants 3M and Arizant Healthcare
Inc.

MS. ZIMMERMAN: Genevieve Zimmerman.
Represent the Plaintiffs in the American
proceedings, the MDL.

MR. ASSAAD: Gabriel Assaad. I also
represent the Plaintiffs.

MS. COSTELLO: Katie Costello. I am
solicitor for Dr. Legg.

MR. HOLL-ALLEN: Jonathan Holl-Allen. I
am an English barrister representing Mr. Legg.

ANDREW JOHN LEGG

THE EXAMINER: The paper says the number of particles was measured. Was that you who was able to carry out that measurement?

A. Correct.

BY MR. GORDON:

Q. I am going to have you take a look at page 149. It is actually a fairly large document all the way to 221?

THE EXAMINER: This is one I removed in the interests of portability.

MS. GARCIA: I don't think we're going to dwell on it.

Have you seen this before?

A. Not until I was given this bundle.

Q. Okay. And --

MS. ZIMMERMAN: Can I ask a point of clarification? As we make objections to foundation, for example, should we be looking to you?

THE EXAMINER: You're putting them on the record for the US judge.

MS. ZIMMERMAN: That is what I would assume. Well, we renew our objection for lack of foundation given the witness's testimony.

BY MR. GORDON:

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Q. Do you recall how you set the particle-size channels on the HandiLaz?

A. No, is the answer to that.

Q. When you actually used it for the first study, how did you -- how did you employ it? In other words, was it something that you held in your hand; did somebody else hold it; was it mounted on something?

A. It was mounted above -- we held it above the surgical site, ie the knee, which was the focus of the operation.

THE EXAMINER: Were you the surgeon in the operating room for the purposes of these experiments?

A. Correct. And Mr. Cannon, who is the other member on the -- was the patient.

THE EXAMINER: Right.

MR. HOLL-ALLEN: He was the human.

THE EXAMINER: Not the mannequin.

BY MR. GORDON:

Q. Was there anyone else present, besides you and Dr. Cannon, for that first experiment?

A. No.

Q. So, you were playing both the role of the

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surgeon standing there, and also holding the particle counter?

A. Sure.

Q. Okay. You also on the -- on page 411, the first page of the 2011 study?

MR. ASSAAD: 2012.

MR. GORDON: No. 2011.

Q. Do you have that page 411?

A. Yes.

Q. On the right-hand side, the second paragraph down of text describing the vertical unidirectional ventilation, there is a reference to the walls around the operating area reaching down to 30 centimetres from the floor and then a discussion of body exhaust suits. Then it states:

"Both of these systems are employed in our theatre set-up".

Then on the next page, on the right-hand side, you refer to an:

"ExFlow 90 Howorth enclosure with vertical wall extensions to 1 metre from the floor".

A. Correct.

THE EXAMINER: Where is the second one?

MR. GORDON: In the middle on the

ANDREW JOHN LEGG

right-hand side.

Q. If you can just help me understand. How far did the wall extensions extend? Was it 30 centimetres or --

A. One meter off the ground. I was implying that we used wall extensions on the first page.

Q. Was there ever time when you used wall extensions that went all the way to 30 centimetres on to the floor?

A. No.

Q. Okay.

On the first page of the 2011 study, it is page 411 in exhibit 1, in the second line of the introduction you say:

"Recently there have been concerns that forced air warming may interfere with unidirectional airflow, potentially posing an increased risk of infection".

To what was that referring? To what concerns?

A. Well, the concerns that had been raised by the HotDog company.

Q. Okay. At that point were you aware of concerns raised by anyone else?

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1 ANDREW JOHN LEGG
2 A. No.
3 Q. Okay. Prior to conducting this study,
4 had you had discussions with Mr. Albrecht?
5 A. No.
6 Q. Had you had discussions with anyone
7 connected with HotDog (the HotDog Company) other
8 than the representative who facilitated you getting
9 use of the equipment?
10 A. No.
11 Q. Who designed the study?
12 A. I designing the study, along with the
13 supervision of Mr. Hamer.
14 Q. There are, looks like, 18 references in
15 the published version of the 2011 study. Who did
16 the research to collect those references?
17 A. I did.
18 Q. How did you go about doing that? Was
19 that a computer research? Was there a library --
20 A. It's a combination of library and also
21 doing the big medical journal reference libraries,
22 which you can do searches through, which is what I
23 did for this.
24 Q. Do you remember what the search terms
25 were, the search parameters that led you to these

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1 ANDREW JOHN LEGG
2 references?
3 A. No, I don't.
4 Q. Again, going back to the front page of
5 the 2011 article, you say at the beginning of the
6 text paragraph, at the bottom at the last line of
7 that:
8 "There are also concerns that forced air
9 warming devices disrupt unidirectional airflow, thus
10 potentially causing risk of infection".
11 For that it looks like you cite a 2002
12 paper by Tumia and Ashcroft. Is that correct?
13 A. That is correct.
14 Q. Do you recall whether that paper
15 concluded that there was any reason to be concerned
16 about forced-air warming devices disrupting
17 unidirectional airflow?
18 A. I don't specifically know, recall the
19 exact paper, I am afraid.
20 THE EXAMINER: Was that not the paper
21 name set out at note six?
22 THE WITNESS: Correct, yes.
23 BY MR. GORDON:
24 Q. That is what you cited --
25 A. I can't recall the exact conclusion from

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2 that paper.
3 THE EXAMINER: I understand that, but the
4 name of the paper is as set out at note six.
5 THE WITNESS: Absolutely, yes.
6 BY MR. GORDON:
7 Q. For the set-up, for the first experiment,
8 was there any drape suspended from the ceiling?
9 A. Define "ceiling".
10 Q. Maybe that is too broad -- too narrow a
11 question.
12 Was there any drape that was used within
13 the enclosure?
14 A. Yes.
15 MR. GORDON: Where --
16 THE EXAMINER: Do you want to explore,
17 for the purpose of a US jury, what "drape" in these
18 circumstances precisely means?
19 BY MR. GORDON:
20 Q. Yes, thank you.
21 Maybe it is easier if we look at
22 the drawing in your second study. If you turn to --
23 MS. ZIMMERMAN: 407.
24 BY MR. GORDON:
25 Q. 407. Does that depiction on the top of

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1 ANDREW JOHN LEGG
2 the page, does that show generally where the drape
3 was?
4 A. Yes.
5 Q. Is the drape the vertical black line that
6 goes down to about the surgeon's elbows?
7 A. No. That is part of the wall extensions,
8 which come out from the Howorth enclosure. The
9 blue, which is blue on mine, is the drape.
10 MR. GORDON: Okay.
11 THE EXAMINER: It comes right down to the
12 patient's chest.
13 THE WITNESS: Yes, and covers the rest of
14 the patient apart from the limb being operated on.
15 BY MR. GORDON:
16 Q. How, so that the -- part of the drape
17 that goes from the patient up, how is that held
18 there? Is it suspended from the ceiling? Suspended
19 from stanchions of some sort?
20 A. Yes. It is suspended. Across the
21 enclosure there is metal railing, which it is
22 clipped to.
23 THE EXAMINER: That is the enclosure of
24 the operating section of the theatre?
25 THE WITNESS: Correct.

12 (Pages 42 to 45)

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1 ANDREW JOHN LEGG
 2 THE WITNESS: Upper thigh, yes.
 3 THE EXAMINER: Depending on how tall Dr.
 4 Cannon was?
 5 THE WITNESS: I can't tell you exactly
 6 how -- we didn't measure that.
 7 BY MR. GORDON:
 8 Q. Okay. There were no other -- there was
 9 just the single drape on top of the Bair Hugger?
 10 A. Yes.
 11 Q. Do you use any kind of warming device in
 12 your current practice?
 13 A. Yes.
 14 Q. What do you use?
 15 A. We use a Bair Hugger.
 16 Q. Is the draping method that you use now
 17 essentially the same?
 18 A. No.
 19 Q. How does it differ?
 20 A. So, we don't have -- I don't use wall
 21 extensions, so you just have that Howorth enclosure
 22 and no wall extensions. I cover the warming blanket
 23 with additional insulation and drapes similar at the
 24 top end to how it is, but there are significant
 25 changes which I have made.

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 2 essentially that had been written by himself, or one
 3 of his colleagues, and was given to us for review.
 4 Q. And I apologize, things got a little
 5 jumbled. Well, no, I guess not. It is a divider.
 6 If you look at pages 432 through 450, is
 7 that the manuscript that would have been attached to
 8 the e-mail?
 9 A. Yes.
 10 Q. Who drafted the manuscript pages 432
 11 through 450?
 12 A. Either Mark Albrecht or Christopher
 13 Nachtsheim.
 14 Q. Had you -- did you ever meet Christopher
 15 Nachtsheim?
 16 A. I never met him or had any contact with
 17 him.
 18 Q. What was your understanding of his role
 19 in the preparation of this?
 20 A. I didn't really -- didn't really know.
 21 Q. Were you -- strike that.
 22 The manuscript pages 432 through 450,
 23 what relation, if any did, that have to the
 24 experiments that you and Mr. Albrecht carried out in
 25 July 2010 at the hospital in Sheffield?

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1 ANDREW JOHN LEGG
 2 Q. And are those --
 3 A. That is in my current place.
 4 Q. Are these changes that you implemented
 5 yourself?
 6 A. Nobody in my current institute uses the
 7 wall extensions. I don't think we even have them in
 8 the hospital. I can't comment on how other people,
 9 whether they insulate the Bair Hugger, but I do
 10 that.
 11 Q. And do you do that as a result of your
 12 studies?
 13 A. Yes.
 14 Q. If we could turn now to page 430. Have
 15 you seen this document before, this e-mail?
 16 A. Yes.
 17 Q. Prior to when you got this pack of
 18 material?
 19 A. Correct, yes.
 20 Q. It is dated September 10th, 2010. Is
 21 that about the time that you would have seen it?
 22 A. Yes.
 23 Q. Could you tell me what the e-mail is?
 24 A. So, the e-mail is -- was attached to
 25 that. There was a manuscript from Mark Albrecht,

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 2 A. It was -- that is what, he wrote it.
 3 That was what was written up on the basis of what
 4 happened that day.
 5 Q. Okay. And if we turn to the 2013 study,
 6 pages 406 to 409, is this paper the 2013 paper, that
 7 you and Dr. Hamer published, is that based on the
 8 same experiments that are discussed in the draft
 9 article pages 432 through 450?
 10 A. Correct.
 11 Q. In the published paper, four pages,
 12 406-409, is there any reference to participation by
 13 Mr. Albrecht or Dr. Christopher Nachtsheim?
 14 A. No.
 15 Q. Why was that?
 16 A. Based on the manuscript, which we
 17 received to this draft manuscript, after discussing
 18 with Mr. Hamer it felt that it was more appropriate
 19 for us to write up the manuscript. We never had any
 20 deal that they were going to write the manuscript,
 21 so we were very surprised when that happened and
 22 felt very uncomfortable for them to be writing that
 23 manuscript. After a number of e-mails, mainly by
 24 Mr. Hamer, it was decided that we would write up the
 25 manuscript independently.

17 (Pages 62 to 65)

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2 A. I don't recall. There were many.

3 Q. Okay. In this second study, the 2000 --
4 the mannequin study -- did you also use any type of
5 device to see if you could collect bacteria?

6 A. No.

7 Q. You did the mannequin study. Which did
8 you do first, the Bair Hugger or the HotDog?

9 A. It was random how we did it. Randomly
10 generated. So, we set them up so there was not a
11 pattern that flowed.

12 Q. How much time was lapsed between the
13 completion of one and the starting of the next one?

14 A. Again, I don't recall. We ensured that
15 the temperature had returned to the ambient
16 temperature, which was measured outside the theatre,
17 and that the particle levels were back down to
18 normal so they had equalized.

19 Q. Okay. The Rocket PS23 Smoke Machine,
20 that generated the 0.3-micron glycerol tracer
21 particles, that was one of the pieces of equipment
22 supplied by the HotDog Company?

23 A. Correct.

24 Q. Who set that up?

25 A. That was set up by both -- I had used it

1 ANDREW JOHN LEGG

2 before because I had used it in my previous study.

3 Q. Did you still have it, or had you sent it
4 back and --

5 A. No, I still had it. I still had it.

6 Q. When you were done with the mannequin
7 study did you keep -- did you keep the Rocket PS23
8 Smoke Machine, or did it go back to the HotDog
9 people?

10 A. I don't have it, so I don't recall, but I
11 presume that the rep had picked it up. I
12 re-contacted him and gave it back to him, but I
13 don't have it now.

14 Q. So, what if any equipment did
15 Mr. Albrecht bring with him?

16 A. A camera, a light source, the bubble
17 machine, and I don't remember whether we used the
18 temperature probe which I had from the first study,
19 or whether we used the temperature probe which he
20 had as well.

21 Q. How about that particle counter? Was
22 that not used?

23 A. No, that was used and I'm pretty sure
24 that I still had that for the second study so we
25 would have probably used the one that I had from the

1 ANDREW JOHN LEGG

2 first study.

3 Q. And did Mr. Albrecht take back with him,
4 after you were done with this mannequin experiment,
5 the equipment he bought: The camera; the bubble
6 generator?

7 A. Correct.

8 Q. The number -- the particle numbers that
9 you reflect in your 2013 paper would be at page 408.

10 A. Yes.

11 Q. They appear to be close, but not
12 identical, to the numbers in the Albrecht drafts and
13 I am wondering is that -- did you do more than one
14 counting?

15 THE EXAMINER: What is the comparison
16 between -- 408 and? 439 to 440?

17 MR. GORDON: We can go to that one. That
18 is fine, I will find the specific pages in it. Page
19 439 to 440.

20 THE EXAMINER: Okay.

21 BY MR. GORDON:

22 Q. And the numbers that I am looking at are
23 2,000,000 -- on the Albrecht draft 2,173,000 --

24 A. What page is that again?

25 Q. 439. He's got 2,173,000.

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2 A. Yes.

3 Q. And 2,172,000?

4 A. Yes.

5 Q. And you have 2,174,000?

6 A. Yes. He's referring to the difference,
7 whereas I put the exact figures. So if you take
8 2,174,000 and you take 2,000 away you get his
9 figure. If you take 1,000 away, you get -- he's put
10 difference but I've put exact.

11 Q. But they are the same numbers?

12 A. The same numbers, yes. It was the same
13 experiment.

14 Q. But they're different "p" values given?

15 A. So, again, I had the original data so he,
16 or his -- where he did statistics and I did
17 statistics.

18 Q. So, you did your own statistics --

19 A. Yes.

20 Q. -- for the 2013. You, yourself, or did
21 you have the assistance of any statistician?

22 A. No. I used software, which is SPS
23 software, and did some statistics on the paper.

24 Q. Now, on your 2013 paper page 408, on the
25 second column sort of in the middle, you say: